

REMARKS

Claims 1-36 and 38-76 are pending in the above-captioned patent application. Claims 1-36 and 38-68 have been rejected. The Applicants disagree with the rejection of claims 1-36 and 38-68. However, the Applicants have amended claims 1, 7, 22, 36, 38, 39, 40, 61 and 66, and added new claims 69-76 for the purpose of expediting the patent application process in a manner consistent with the goals of the Patent Office (65 Fed. Reg. 54603).

Support for the amendments to the claims and the new claims can be found throughout the specification. For example, support for the amendments can be found in Figures 1 and 3, and on Page 10, line 23 through Page 11, line 18, Page 15, lines 23-30, and Page 18, line 15 through Page 20, line 9 and in the originally filed claims.

Reconsideration of the pending application is respectfully requested.

INTERVIEW SUMMARIES

On July 13, 2004, the undersigned attorney for the applicants conducted a telephonic interview with the Examiner Lam S. Nguyen. However, no agreement was reached during this interview. Subsequently, on August 6, 2004, the undersigned conducted a second, telephonic interview with the Examiner. During the interview, language for some of the claims was discussed that Examiner believed would overcome the cited references. This language was incorporated into some of the claims. The applicants wish to thank the Examiner for his assistance in this matter.

Rejections Under 35 U.S.C. § 102(b)

Claims 1-4, 6, 8-11, 13, 16, 18-22, 25-27, 30, 32-37¹, 40-44, 47 and 49-68 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sogard et al. (U.S. Patent No. 5,552,888). The Applicants respectfully submit that the rejection of claims 1-4, 6, 8-11, 13, 16, 18-22, 25-27, 30, 32-37, 40-44, 47 and 49-68 is unsupported by the art and should be withdrawn.

Sogard et al. is directed to a stage assembly comprising: a stage 900 that carries a

wafer, the stage 900 being supported above an air-bearing plate 906 by a cushion of air provided by an air/vacuum bearing; and a follower assembly 904 that surrounds the stage 900, the follower assembly 904 including an X follower and a Y follower. The stage 900 carries magnetic drive coils 910, 912, 914 for moving the stage 900 in an X-Y plane. The X follower and the Y follower each include a cross member 950, 942, and a pair of spaced apart arms 952, 954 and 944, 946, wherein each arm has a drive track 956, 948 which cooperates with one of the coils 910, 912, 914 to form a linear motor, so as to move the stage 900 in the X direction or the Y direction. The linear-motor coils of the stage 900 ride inside the drive tracks of the followers, but do not physically contact the followers or anything else. The X follower 1010 moves in the X direction to closely follow stage 900 as it travels in the X direction, and the Y follower 1020 moves in the Y direction to closely follow stage 900 as it travels in the Y direction. (Sogard et al. column 7, line 17 through column 8, line 8, and in Figures 9A, 9B and 10A-10D).

However, Sogard et al. does not disclose a stage assembly comprising a device stage and a frame that is moved to follow the stage and that supports the device stage. In Sogard et al., the X follower 1010 and the Y follower 1020 of the follower assembly 904 are utilized in moving the stage 900 in the X-Y plane, and do not provide support of the stage 900, do not constrain motion of the device stage along an axis, and do not guide the motion of the stage. Instead, the air bearing plate 906 supports the stage 900, guides the movement of the stage 900, and inhibits movement of the stage along an axis via an air/vacuum bearing.

In contrast to the cited reference, claim 1 of the present invention recites "(a) stage assembly ... comprising: a device stage that retains the device; a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along the Y axis, the stage mover assembly generating a reaction force that is transferred to a reaction component; and a first follower frame that constrains motion of the device stage along a Z axis that is orthogonal to the Y axis, the first follower frame being moved substantially concurrently with and to substantially follow the movement of the device stage along the Y axis; wherein the reaction component is not directly

¹ Claim 37 was previously cancelled without prejudice.

connected to the first follower frame.”

Because Sogard et al. does not disclose all of the elements of claim 1, the §102(b) rejection is unsupported by the art and should be withdrawn. Because claims 2-4, 6, 8-11, 13, 16, 18-21, 56 and 57 depend either directly or indirectly from claim 1, the §102(b) rejection of these claims is also unsupported by the art and should be withdrawn.

Further, in contrast to the cited reference, claim 22 of the present invention recites “(a) stage assembly ... comprising: a device stage that retains the device; a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along the X axis and along the Y axis, the stage mover assembly generating a reaction force that is transferred to a reaction component; a first follower frame that supports the device stage along a Z axis; wherein the reaction component is not directly connected to the first follower frame; and a first follower mover that moves the first follower frame along the Y axis substantially concurrently with the movement of the device stage by the stage mover assembly along the Y axis.”

Because Sogard et al. does not disclose all of the elements of claim 22, the §102(b) rejection is unsupported by the art and should be withdrawn. Because claims 25-27, 30, 32-35 and 58-60 depend either directly or indirectly from claim 22, the §102(b) rejection of these claims is also unsupported by the art and should be withdrawn.

Additionally, in contrast to the cited reference, claim 36 of the present invention recites “(a) method for making a stage assembly ... comprising the steps of: providing a device stage that retains the device; connecting a stage mover assembly to the device stage, the stage mover assembly moving the device stage along the Y axis, the stage mover assembly generating a reaction force that is transferred to a reaction component; inhibiting motion of the device stage along a Z axis with a first follower frame; wherein the reaction component is not directly connected to the first follower frame; and connecting a first follower mover to the first follower frame, the first follower mover moving the first follower frame substantially concurrently with the movement of the device stage by the stage mover assembly along the Y axis.”

Because Sogard et al. does not disclose all of the elements of claim 36, the §102(b) rejection is unsupported by the art and should be withdrawn. Because claims 40-44, 47

and 49-55 depend either directly or indirectly from claim 36, the §102(b) rejection of these claims is also unsupported by the art and should be withdrawn.

Still further, in contrast to the cited reference, claim 61 of the present invention recites "(a) stage assembly ... comprising: a device stage that retains the device; a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along an axis, the stage mover assembly generating a reaction force that is transferred to a reaction component; a frame that supports the device stage; wherein the reaction component is not directly connected to the frame; and a mover connected to the frame, wherein the mover moves the frame along the axis at substantially the same time that the stage mover assembly moves the device stage along the axis."

Because Sogard et al. does not disclose all of the elements of claim 61, the §102(b) rejection is unsupported by the art and should be withdrawn. Because claims 62-65 depend directly from claim 61, the §102(b) rejection of these claims is also unsupported by the art and should be withdrawn.

Yet further, in contrast to the cited reference, claim 66 of the present invention recites "(a) stage assembly ... comprising: a device stage that retains the device; a stage mover assembly connected to the device stage, the stage mover assembly moving the device stage along a first axis, the stage mover assembly generating a reaction force that is transferred to a reaction component; a frame that inhibits motion of the device stage along a second axis; wherein the reaction component is not directly connected to the frame; and a mover connected to the frame, wherein the mover moves the frame along the axis and wherein the mover does not direct a force that acts on the device stage."

Because Sogard et al. does not disclose all of the elements of claim 66, the §102(b) rejection is unsupported by the art and should be withdrawn. Because claims 67 and 68 depend directly from claim 66, the §102(b) rejection of these claims is also unsupported by the art and should be withdrawn.

Rejections Under 35 U.S.C. § 103(a)

Claims 5, 17, 23, 31, 38 and 48

Claims 5, 17, 23, 31, 38 and 48 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Sogard et al. (U.S. Patent No. 5,552,888) in view of Sugishima et al. (U.S. Patent No. 4,684,315). The Applicants respectfully submit that the rejection of claims 5, 17, 23, 31, 38 and 48 is unsupported by the art and should be withdrawn.

As provided above, the rejection of claims 1, 22 and 36 is unsupported by the art. Therefore, claims 1, 22 and 36 negate a prima facie showing of obviousness with respect to the cited combination of references. Accordingly, claims 5 and 17, which depend either directly or indirectly from claim 1, also negate a prima facie showing of obviousness. Further, claims 23 and 31, which depend either directly or indirectly from claim 22, also negate a prima facie showing of obviousness. Additionally, claims 38 and 48, which depend either directly or indirectly from claim 36, also negate a prima facie showing of obviousness.

Claims 7, 12, 24 and 39

Claims 7, 12, 24 and 39 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Sogard et al. (U.S. Patent No. 5,552,888) in view of Lee (U.S. Patent No. 6,008,500). The Applicants respectfully submit that the rejection of claims 7, 12, 24 and 39 is unsupported by the art and should be withdrawn.

As provided above, the rejection of claims 1, 22 and 36 is unsupported by the art. Therefore, claims 1, 22 and 36 negate a prima facie showing of obviousness with respect to the cited combination of references. Accordingly, claims 7 and 12, which depend indirectly from claim 1, also negate a prima facie showing of obviousness. Further, claim 24, which depends directly from claim 22, also negate a prima facie showing of obviousness. Additionally, claim 39, which depends directly from claim 36, also negate a prima facie showing of obviousness.

Claims 14, 15, 28, 29, 45 and 46

Claims 14, 15, 28, 29, 45 and 46 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Sogard et al. (U.S. Patent No. 5,552,888) in view of Loopstra et al. (U.S. Patent No. 5,969,441). The Applicants respectfully traverse the rejection of

claims 14, 15, 28, 29, 45 and 46 and respectfully submit that the rejection of claims 14, 15, 28, 29, 45 and 46 is unsupported by the art and should be withdrawn.

As provided above, the rejection of claims 1, 22 and 36 is unsupported by the art. Therefore, claims 1, 22 and 36 negate a prima facie showing of obviousness with respect to the cited combination of references. Accordingly, claims 14 and 15, which depend either directly or indirectly from claim 1, also negate a prima facie showing of obviousness. Further, claims 28 and 29, which depend either directly or indirectly from claim 22, also negate a prima facie showing of obviousness. Additionally, claims 45 and 46, which depend either directly or indirectly from claim 36, also negate a prima facie showing of obviousness.

NEW CLAIMS


New claims 69-76 depend from claim 1, 22, 36, 61, or 66. As provided above, claims 1, 22, 36, 61, or 66 are patentable. Because new claims 69-76 depend from claim 1, 22, 36, 61, or 66, these claims are also patentable.

CONCLUSION

In conclusion, the Applicants respectfully assert that claims 1-36 and 38-76 are patentable for the reasons set forth above, and that the application is now in a condition for allowance. Accordingly, an early notice of allowance is respectfully requested. The Examiner is requested to call the undersigned at 858-456-1951 for any reason that would advance the instant application to issue.

Dated this 28th day of August, 2004.

Respectfully submitted,


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